DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-018243
Date Inspected: 18-Nov-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 1000
OSM Departure Time: 1830
Location: Jobsite

CWI Name:	See below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

1). OBG Field Welding of Lifting Rod Access Penetration Inserts (SMAW)
2). OBG Lifting Rod Access Penetration Inserts (QC UT)
3). OBG East Line Access Penetration Insert Welds (SMAW R-2 Repairs)
4). OBG East Line Utility Piping Support Angles (SMAW)

1). OBG Field Welding of Lifting Rod Access Penetration Insert (SMAW)
Interior: OBG 4E-PP25-E3 – welds 1 & 3
The QAI periodically observed AB/F approved welder Earl Espinoza (ID 5824) performing back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E3-welds 1 & 3. QC Inspector John Pagliero was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1. 5-1110B. Back welding was completed at weld 3 and in process at weld 1. The QAI observed that the work appeared to be in general compliance with contract documents.
Interior: OBG 3E-PP22-E4-welds 2 & 4
The QAI periodically observed AB/F approved welder Darcell Jackson (ID 9967) performing back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position of E4-weld 2 & 4. QC Inspector John Pagliero was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1110B

rev. 1. Welding was completed from the interior at E4-welds 2 & 4. The QAI observed that the work at this location appeared to be in general compliance with contract documents.
Interior: OBG 4E-PP25 & PP27
The QAI periodically observed AB/F personnel performing air carbon arc back gouging and grinding of back gouged areas in welds at the following locations.
PP location Weld Numbers
PP25 E3 W2 & W4
PP25 E4 W2 & W4
PP27 E3 W1 & W3
PP27 E3 W2 & W4
Back gouging was completed at the above locations.

Interior: OBG 4E-PP25-E4 - welds 2, 3 & 4
The QAI periodically observed AB/F approved welder Salvador Sandoval (ID 2202) performing back welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position. See Summary of Conversations below. Welding was completed by Mr. Sandoval from the interior and exterior repairs will be required. QC Inspector John Pagliero was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. The QAI observed that the work at this location appeared to be in general compliance with contract documents.

2). OBG Lifting Rod Access Penetration Inserts (QC UT)
The QAI periodically observed QC Inspector Patrick Swain performing Ultrasonic Testing (UT) from Face A of OBG East Line Lifting Rod Access Penetration Insert Welds. Mr. Swain was performing QC UT of R-1 repair locations at the following locations with the following results:

Location:	QC UT Results:
2E-PP15-E3 weld 1	(5) R-1 Rejects
2E-PP15-E3 weld2	(2) R-1 Rejects
2E-PP15-E3 weld3	(4) R-1 Rejects
2E-PP15-E3 weld4	Acceptable

The QAI observed that Mr. Swain utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the repair welds. The QAI observed as the QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The UT examination was completed during the QA Inspectors shift and the work at this location appeared to be in general compliance with contract documents.

3). OBG East Line Access Penetration Insert Welds (SMAW R-2 Repairs)
OBG East Line Access Penetration Insert Weld at 2E PP19.5 E5 NW (Interior)
The QAI periodically observed AB/F approved welder Jin Pei Wang (ID 7299) performing grinding to excavate and performing repair welding per the Shielded Metal Arc Welding (SMAW) process in the 4G (overhead) position on the Interior of OBG East Line Access Penetration Insert Weld 2E PP19.5 E5 NW. QC Inspector John Pagliero was present to monitor the progress and verify that the welding parameters were within the limits

established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1000 Repair. Mr. Jin Pei Wang completed welding of 3 excavated areas. The QAI observed QC Inspector John Pagliero performing Magnetic Particle Testing (MT) of the excavated areas prior to repair welding. The QAI observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The QAI observed that the excavated areas on the interior of this insert weld had the following dimensions and the Y locations shown are those of the associated rejectable indication. (No layout was present on the interior surface to reference Y locations.)

Indication #1 -Y = 1225mm, Length = 85mm, Depth = 10mm and Width = 20mm.

Indication #2 -Y = 1325mm, Length = 110mm, Depth = 10mm and Width = 20mm.

Indication #3 -Y = 1625mm, Length = 110mm, Depth = 10mm and Width = 20mm.

The QAI observed that the welding at this location appeared to be in general compliance with contract documents.

OBG East Line Access Penetration Insert Weld at 2E PP19.5 E5 NW (Exterior)

The QAI periodically observed AB/F approved welder Xiao Jian Wan (ID 9677) performing grinding to excavate and performing repair welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position on the exterior of OBG East Line Access Penetration Insert Weld 2E PP19.5 E5 NW. See photo below. QC Inspector Pat Swain was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001 Repair. Mr. Xiao Jian Wan completed welding of 3 excavated areas. The QAI observed QC Inspector Pat Swain performing Magnetic Particle Testing (MT) of the excavated areas prior to repair welding. The QAI observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The QAI observed that the excavated areas on the exterior of this insert weld had the following Y locations and dimensions:

Indication #4 -Y = 3295mm, Length = 100mm, Depth = 17mm and Width = 35mm.

Indication #5 -Y = 3540mm, Length = 60mm, Depth = 9mm and Width = 20mm.

Indication #6 -Y = 4095mm, Length = 75mm, Depth = 14mm and Width = 20mm.

The QAI observed that the welding at this location appeared to be in general compliance with contract documents.

4). OBG East Line Utility Piping Support Angles (SMAW)

The QAI periodically observed AB/F approved welder Eric Sparks (ID 3040) performing tack welding and fillet welding per the Shielded Metal Arc Welding (SMAW) process in the 1G (flat) position. See photo below. Mr. Sparks was welding angle segments to the exterior of A deck at various locations near line E5. QC Inspector Mike Johnson was periodically present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-F1200A Repair.

WELDING INSPECTION REPORT

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Summary of Conversations:

The QAI spoke with QC Lead Inspector Bonafacio Daquinag Jr. regarding the upcoming painting in OBG E line. The QAI inquired as to the status of a UT reject at OBG Field Splice 3E/4E ALS-4. The QAI explained to Mr. Daquinag that during the period of time that QC was performing UT of only 25% of each longitudinal A stiffener, the QAI while performing UT verification testing had discovered a Class A reject in a portion of ALS-4 not tested by QC. Mr. Daquinag stated that he would speak with QC Mr. Leonard Cross and then let the QAI know the status.

From Item 1)

The QAI spoke with QC John Pagliero regarding the back gouged areas at 4E PP25 welds 2 & 4. Mr. Pagliero stated that (as was the case with welds 1 & 3 at PP 25 E4) the back gouged areas contained Magnetic Particle Testing indications that could not be removed without grinding through to the exterior surface. He stated that the welding of the back gouged areas would be performed over indications and the gouging would need to be performed on the exterior in order to clear the indications.

Other conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammed Fatemi (916) 813 3677, who represents the Office of Structural Materials for your project.

Inspected By:	Madison,Bert	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer